# StruxureWare for Data Centers

Data Center Infrastructure
Management (DCIM) Software

Schneider Electric

# Intelligent data center management without the complexity

From managing complex IT to cutting enterprisewide energy and operating costs, you face daily data center challenges. Now, get the most from your data center and simplify operations with StruxureWare™ for Data Centers software. It's an advanced data center infrastructure management (DCIM) suite that gives you the end-to-end visibility you need to optimize, operate, and manage your data center from rack to row to room to building.

## The bridge between facilities and IT

StruxureWare for Data Centers software provides a simple, integrated experience for many users and groups who manage both the facility and IT infrastructure environments, as well as executives who depend on their company's data center to provide business value. Not only does the software suite streamline operational efficiencies, it enables intelligent energy management for real OpEx savings.

StruxureWare for Data Centers software applications are unified across three levels to give the right information to the right users at the right time:
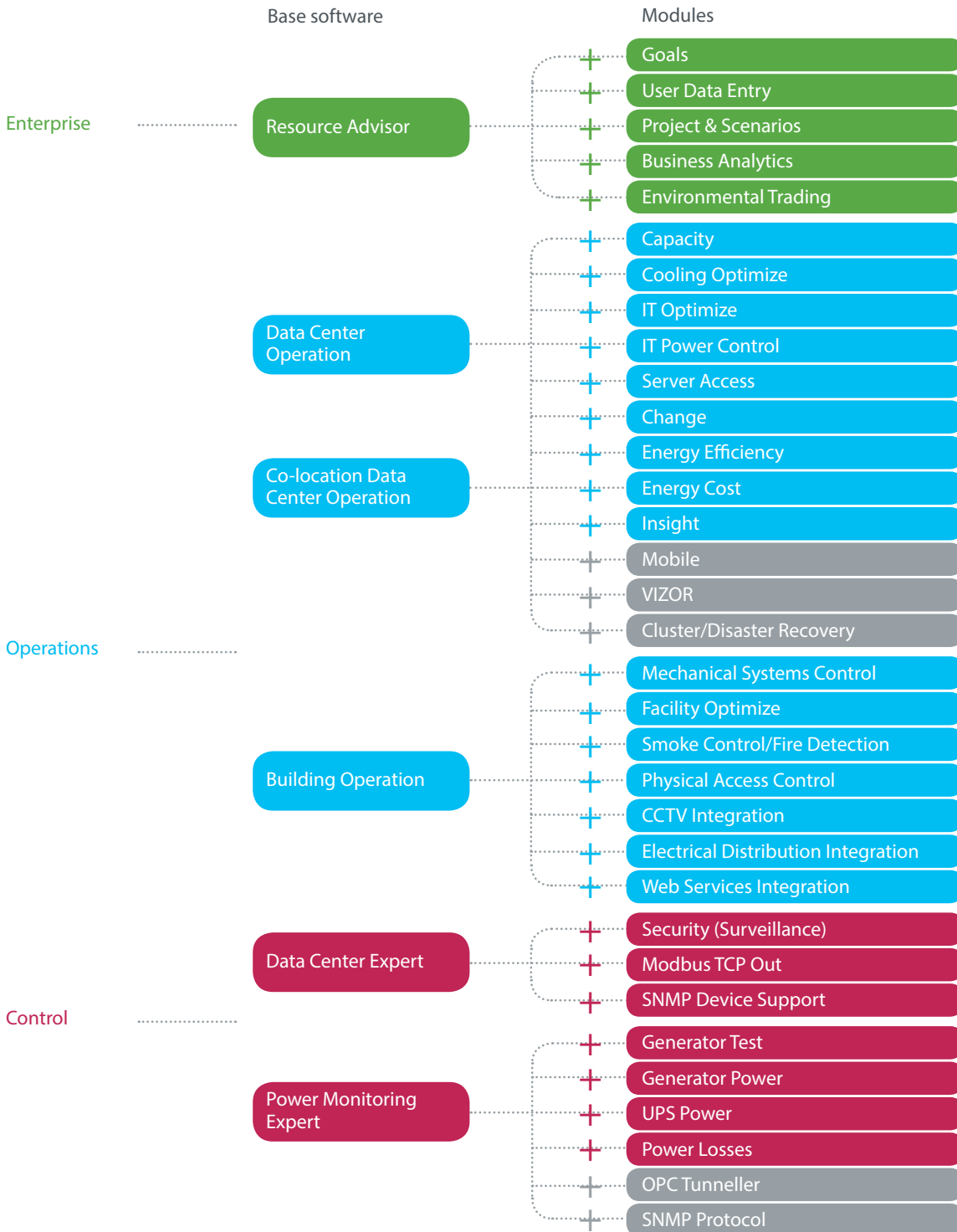
> **Enterprise level:** C-level executives can drive their corporate and environmental sustainability strategy efficiently, choosing the best scenario that meets their business objective to conserve enterprisewide resources.

> **Operations level:** Functional managers can optimize operations, energy, and assets through smart analytical tools and planning capabilities, spanning multiple sites.

> **Control level:** Experts, on-site or remotely, can control process performance and ensure business continuity in real time, while tracking energy consumption in a highly ergonomic and secured environment.

## StruxureWare for Data Centers benefits

> Adjust the facility's cooling needs when the IT loads change for optimal resource use.

> Track your carbon and resource use to cut costs.

> Optimize existing data center physical infrastructure to reduce OpEx and delay future CapEx.

> Display, monitor, and manage Power Usage Effectiveness (PUE) across facilities/IT.

> Dynamic virtual machine management maximizes application and system availability.

> Monitor and automate equipment for reduced costs and highest availability.

> Provide graphical representation of systems for proactive monitoring and management.

> Instantly calculate recommended IT installation locations for greater agility.

> Support your business process for space and cage management for multitenant facilities.

# StruxureWare for Data Centers Suite

The StruxureWare for Data Centers software architecture is scalable and modular to enable you to tailor the suite to your distinct business needs.

**Base software**  **Modules**

**Enterprise** ····· Resource Advisor

- Goals
- User Data Entry
- Project & Scenarios
- Business Analytics
- Environmental Trading

Data Center Operation

Co-location Data Center Operation

- Capacity
- Cooling Optimize
- IT Optimize
- IT Power Control
- Server Access
- Change
- Energy Efficiency
- Energy Cost
- Insight
- Mobile
- VIZOR
- Cluster/Disaster Recovery

**Operations** ·····

Building Operation

- Mechanical Systems Control
- Facility Optimize
- Smoke Control/Fire Detection
- Physical Access Control
- CCTV Integration
- Electrical Distribution Integration
- Web Services Integration

Data Center Expert

- Security (Surveillance)
- Modbus TCP Out
- SNMP Device Support

**Control** ·····

Power Monitoring Expert

- Generator Test
- Generator Power
- UPS Power
- Power Losses
- OPC Tunneller
- SNMP Protocol

With StruxureWare for Data Centers software, you can see across your data center and multiple sites from server to building and, in turn, make informed decisions related to asset utilization, capacity, resources, and energy.

> Multisite visibility: Get the enterprise view you need to streamline management

## The right information at the right time

The StruxureWare for Data Centers software suite gives each user simple, easy access to the right information at the right time in order to make informed decisions related to resource optimization, energy management, and operational performance and efficiency.

## A view that works for you

The StruxureWare Portal gives you an easy-to-read, live overview of data center operations using widgets and data sets. Providing an overarching view of all other applications, it gathers the specific information you need to see based on your specific role and responsibilities.

> Portal: Live overview of data center operations using widgets and data sets

# StruxureWare Resource Advisor
Enterprise energy procurement and sustainability service

## Energy and environmental reporting at your fingertips

This comprehensive Software-as-a-Service (SaaS) platform provides easy access to enterprisewide energy, carbon, and other resource data, reports, and summaries. Advanced data capture capabilities deliver audit-grade information; customizable dashboards enable at-a-glance performance checks. Manage projects, make decisions, and drive your energy management and sustainability strategies with confidence.

## Audited, verified, and accurate data

Resource Advisor combines quality assurance and data capture capabilities into one energy and carbon management solution. Enterprises that depend on audited and verified data that other software or internal spreadsheets can't guarantee will appreciate Resource Advisor's uncompromising approach to data accuracy. Resource Advisor provides secure access to data, reports, and summaries to drive your energy and sustainability programs.

## Access your data

Resource Advisor's standard features provide plenty of functionality, but some users require additional customization to meet their specific needs. We work with you to build Resource Advisor to the specifications you prefer. You won't pay for features you won't use, and you'll have the ability to personalize and configure your experience for maximum efficiency.

## Monitor the markets

Energy analysts at Schneider Electric™ model key futures markets and dozens of energy index points across the globe. This analysis and information populates special updates aimed at keeping you well-informed of market opportunity and market risk

## Know your spend and usage

You and your stakeholders need accurate, timely spend and usage information. Resource Advisor delivers a robust set of tools to help collect, analyze, and report on your cost and consumption at the macro or micro level.

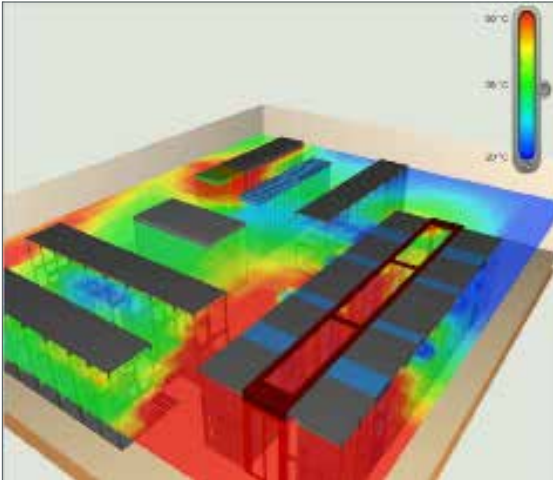## Control your environmental impact

Facing pressure from around the globe to curb emissions and become more efficient by reducing water consumption and waste, companies require accurate and timely environmental reporting. Resource Advisor allows you to establish and track your carbon, water, and waste footprints and communicate the results of your reduction efforts to key stakeholders.

# StruxureWare Data Center Operation
## A new level of business intelligence for your data center

With its capability of communicating with building, enterprise, and network management systems, Data Center Operation optimizes energy and cost efficiencies and aids in short- and long-term planning and provisioning of data center equipment and resources.



## Make informed data center decisions

With the ability to integrate with both Schneider Electric and third-party equipment throughout the data center physical infrastructure, Data Center Operation bridges the gap between IT and facilities by providing complete visibility for proactive monitoring, streamlined management, and system control down to the server level.

## Supports business planning

This application supports data center business processes and strategic decision-making by allowing stakeholders to manage data center assets, operational costs, and capital costs. It removes historical management silos and helps to create energy awareness across the entire data center physical infrastructure.

This visibility enables informed decision-making from a "building-to-server" perspective, which can be enhanced by product modules and enhancement options to scale to specific user requirements and flexibly meet business needs.
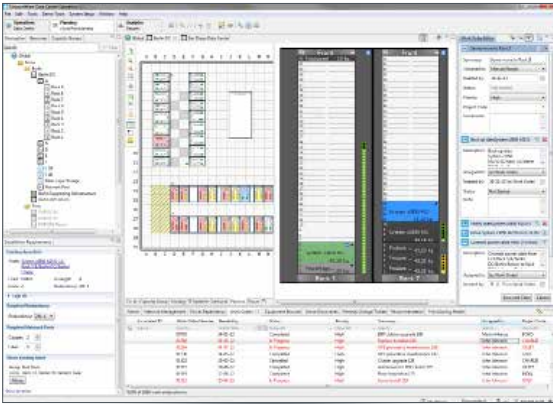
## Analysis, optimization, and operations

Data Center Operation enables vendor-agnostic inventory management with real-time device failures and data shown within your data center physical layout, as well as recommendations on how to resolve issues.

> Extends the life cycle of the data center through optimization of power, cooling, network, and space capacities.

> Provides dynamic cooling optimization and intelligent control.

> Reduces IT system energy usage through in-depth optimization of server utilization for increased data center performance.

> Easily tracks and executes moves, adds, and changes of equipment in the data center through the workflow management tool.

> Software-only server access and power cycling for remote management.

> Rack-level power capping for an optimized performance of server applications.

> Intelligent PUE/Data Center Infrastructure Efficiency (DCiE) analytics at subsystem level.

# StruxureWare Data Center Operation for Co-location
## A new level of business intelligence for your data center

## Asset and cage space management for an optimized multitenant data center.

Data Center Operation for Co-location enables vendor-agnostic inventory management with real-time device failures and data shown within your data center physical layout, as well as recommendations on how to resolve issues.



### Visualization

Visualize new cages during the presales phase for planning potential new customer cages and supporting the sales process. Data Center Operation for Co-location extends the usage of DCIM tools to the multitenant sales process, where it provides instant visualization of space available for selling to tenants, broken down by used, reserved, and available capacity, and identifies how much is required going forward.

This expands the user group of DCIM into the front office of the business — making it a driver for business development.

### Optimizing the multitenant data center

Data Center Operation for Co-location transforms the way multitenant providers are doing business by optimizing data center capacities and business processes, which in turn frees up valuable time to focus on developing the business.

> The application provides multitenant providers with a real-time status of their current data center capacities, in terms of data center power, cooling, and space, and the ability to drill down further and identify any constraints for expansion.

> With cage space management, the data center operator can import CAD drawings, apply grid-based naming for floor mount equipment, utilize cage drawing tools and cage power modeling, and visualize the solution in 3D.

> Facility maintenance is made easy through a complete audit trail on all facility equipment and cages, the ability to create and track maintenance schedules by equipment, and use impact analysis to ensure redundancy is maintained during maintenance.

> The open system integrates tenant billing information into the DCIM system for mapping tenant assets, providing detailed power draw, total energy footprint, and access to an instant impact analysis at the tenant level.

# StuxureWare Building Operation
## Advanced cooling monitoring and automation at the building level

Integrated monitoring, control, and management of energy, lighting, fire safety, and HVAC.

### Save money by converging systems

Building Operation will provide intelligent management of your building's systems on one network — across your enterprise. This reduces the need for multiple systems and their associated hardware, software, training, and maintenance costs.
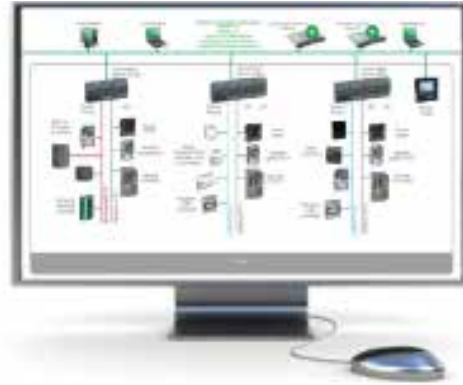
### Protect people, property, and investments

Building Operation ensures that your people are comfortable and your buildings are secure. The system immediately responds to any event that falls outside the defined optimum range. Responses include controlling equipment, emailing alarms, or displaying proper procedures to bring the facility back into peak performance. Building Operation is compatible with our existing field devices.

### Making day-to-day operations easy

Building Operation was designed to simplify day-to-day operations and provide easy access to system-critical information. Alarming, trending, scheduling, and reporting functionality are dramatically easier to use. Your facility managers can focus on optimizing the system, rather than just maintaining it.

Building Operation software is an integration platform for monitoring, control, and management of energy, lighting, fire safety, security, and HVAC. It is a powerful, easy-to-use platform that was engineered to ensure you have the most efficient, safe, and effectively managed buildings on the planet.
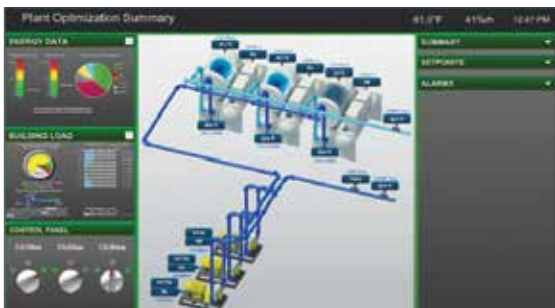
### Easy to use

Customized workspaces, stunning graphics capability, out-of-the-box functionality, and a robust online help community make Building Operation the most user-friendly system on the market. With Building Operation WebStation, you can securely navigate your building management interface, view graphics, reports, and trend charts, and manage alarms on-site or from any remote location from a standard Web browser.

### Ready for growth

Building Operation unique architecture and modular design ensures that the same robust functionality is available to a single building or a sprawling campus. Building Operation will natively support every major communication standard in building automation and security management, including TCP/IP, LonWorks, BACnet, modbus, and Ethernet. This multilingual approach gives you the freedom to connect any equipment and the power to gather and analyze data to maximize operational efficiency.

# StruxureWare Data Center Expert
## Centralized monitoring of the physical infrastructure

**Instant fault notification and escalation enable quick resolution of critical infrastructure events.**

Whether located in a data center, remote office, or campus environment, Data Center Expert and the Schneider Electric power, cooling, environmental, and security devices combine to provide a comprehensive centralized monitoring solution.

With Data Center Expert, power readings, environmental readings, and camera images from any site on your network are tied into a common management platform. Images and alerts from around the company can be instantly viewed and managed, trends analyzed, and problems averted, providing unparalleled physical threat management.

### Integrated with Power and Building Management

Integrate with Building Operation and Power Monitoring Expert for information on the health of critical support systems in the electrical and mechanical rooms, as well as power quality and electrical distribution.

### Web Services API

Ready access to Data Center Expert alerts, data, reports, and trending through existing dashboards — or create custom portals for financial, operational, or other views.

Data Center Expert is easy to use and deploy with a user-friendly interface to monitor, manage, and control the hundreds or thousands of devices a company might have from a wide range of manufacturers. These devices include equipment that provides power, cooling, security, and environmental monitoring.



### Centralized monitoring and alerts

> Multivendor support for monitoring any networked device from any manufacturer.

> Real-time monitoring and instant fault notification and escalation enable quick resolution of critical infrastructure events.

> Centralized repository of critical information accessible by multiple users from anywhere on the network.

> Future trending for bringing new insights into your infrastructure's health, planning, and budgeting.

> Customized alarming and escalation by device, rack, or location to the right people at the right time.

> Open and flexible architecture that expands with changing business needs through additional device licenses, add-on surveillance, operations, and control applications.

> Full software developer kit (SDK) allows for maximum flexibility through custom integration with other systems.

# StruxureWare Power Monitoring Expert
## Advanced power monitoring and power quality analysis

### Specialized and focused power system intelligence for your entire power distribution infrastructure to help you move beyond business as usual.

Power Monitoring Expert is a specialized power management system that provides power system intelligence for your entire data center. It enables relevant information sharing and user-to-user collaboration while controlling costs.

With deep insight into the operation of your electrical infrastructure, the system ensures your data center can be operated at the design level of reliability while minimizing energy costs and making the most of your current assets.

Power Monitoring Expert is designed to collect and manage data, helping you optimize your data center's performance. It provides the right combination of data and analysis tools to meet the unique needs of your data center.

#### Optimize power loading of equipment

Data center power distribution infrastructure is expensive and maximizing the use of this equipment is critical for minimizing CapEx. The right information allows facility operations to:

> Safely maximize the loading of power equipment without compromising reliability.

> Rebalance phase loading to ensure that the full capacity of the circuit is used.

> Identify and correct harmonic currents.

#### Decrease the duration of unplanned outages

> Quickly receive critical power system alarms.

> View the critical alarm history to create an action plan to resolve the issues.

#### Decrease the number of unplanned outages

> Identify and track oversubscribed capacity.

> Identify redundancy comprised IT branch circuits.

> Identify power equipment maintenance needs.

> Perform and document regular power equipment testing.

> Perform root cause analysis on electrical distribution system events to help reduce the probability of recurrent events.

#### Improve the effectiveness of maintenance activities

Ensuring that technicians have accurate information prior to, during, and after a maintenance activity is critical to minimizing technician error. View real-time electrical distribution system data for the complete maintenance cycle.

#### Decrease your energy-related OpEx

> Measure and report on IT branch circuit energy usage for billing purposes.

> Quantify and track the cost of power losses in the power distribution system.

> Track power usage effectiveness in real time and over time.

# Peace-of-mind software services

Schneider Electric offers a comprehensive portfolio of services to protect your investment, efficiency, and availability. Our software services are designed to ensure your applications receive the care they need to operate at optimal levels — at all times — from installation to ongoing operations.





## Software installation

> Accelerates the value of your newly purchased StruxureWare for Data Centers software via our repeatable industry best practices for installing and registering in accordance to manufacturer specification.

> Ensures that all software products are installed correctly by a highly skilled field service engineer and are quickly ready for use in your dynamic data center.

## Software configuration

> Configures the system quickly and precisely to emulate your unique data center, in turn allowing you to make critical decisions that will save you time and money.

> Gives you the data you need to run an efficient data center today, while planning for tomorrow.

## Software integration

> Provides planning, designs, and project management for the integration of StruxureWare for Data Centers software into your existing software or system, providing you with a customized view into your existing applications.

## Software education

> Offers expert training to enable you to get the most from your investment by learning operational skills and best practices for your solution.

> Allows you to focus on key features of StruxureWare for Data Centers.

We offer comprehensive software services that accelerate the value of your StruxureWare for Data Centers software.

# For more information …

## Additional resources

### Visit whitepapers.apc.com

Read more about the technology and research behind StruxureWare for Data Centers.

> How Data Center Infrastructure Management Software Improves Planning and Cuts Operational Costs (#107).

> Avoiding Common Pitfalls of Evaluating and Implementing DCIM Solutions (#170).

> Virtualization and Cloud Computing: Optimized Power, Cooling, and Management Maximizes Benefits (#118).

> Guidelines for Specification of Data Center Power Density (#120).

> Allocating Data Center Energy Costs and Carbon to IT Users (#161).

> Estimating a Data Center's Electrical Carbon Footprint (#66).

### View videos

Visit tv.schneider-electric.com to watch our StruxureWare for Data Centers videos and customer testimonials.

> www.youtube.com/user/SchneiderCorporate

> tv.schneider-electric.com

### Read our blogs

Discussing challenges and trends of DCIM, and inviting you to join in.

> Blog.schneider-electric.com/datacenter

### Follow us on Twitter

For updates on all news on StruxureWare for Data Centers.

> www.twitter.com/StruxureWare_DC

### Need additional information?

Check out our web pages or DCIM support for answers to your questions.

> www.apc.com/struxureware

> DCIMsupport.apc.com

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